

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Group Art Unit : 2618
Examiner : Raymond S. Dean

**APPEAL BRIEF
On Appeal from Group Art Unit 2618**

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I. REAL PARTY IN INTEREST

The real party in interest is Koninklijke Philips Electronics N.V., the assignee of record.

II. RELATED APPEALS AND INTERFERENCES

Appellant is not aware of any pending appeals, judicial proceedings, or interferences which may be related to, directly affect, be directly affected by, or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

- a) Claims 1-15, 19, 20, and 25-27 are pending.
- b) Claims 1-15, 19, 20, and 25-27 stand rejected and are the subject of this appeal.
- c) Claims 16-18 and 21-24 are cancelled.
- d) Claims 1, 6, 10 and 20 are independent.

IV. STATUS OF AMENDMENTS

The claims listed in section "VIII. Claims Appendix" of this Appeal Brief correspond to the claims as amended and submitted in Appellant's response of October 27, 2006. These amendments were entered by the Examiner. No claim amendments have been submitted following the response of October 27, 2006. Nor are any claim amendments pending.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The claimed invention, as recited in claim 1, is directed to a radio communication system (fig. 1) having physical control channels arranged for the bi-directional transmission of sets of control information (page 6, lines 6-13; page 7, lines 10-17; page 8, lines 20-29) between a secondary station (figs. 1 & 2, ref. 110) and a plurality of primary stations (figs. 1 & 2, ref. 100), wherein respective closed-loop power control means (fig. 1, ref. 107; page 5, lines 1-21) are provided for individually adjusting the power of some or all physical control channels (page 5, line 28 to page 7, line 9), or parts thereof, to which a set of control information is mapped (page 7, line 10 to page 8, line 19), said closed-loop power control means being utilized to select a subset of primary stations greater than one primary station, selected from the plurality of primary stations (page 6, lines 6-17), for the transmission of data over at least one data channel between the selected subset of primary stations and the secondary station (page 6, lines 18-25; page 12, lines 20-31).

The claimed invention, as recited in claim 6, is directed to a primary station (figs. 1 & 2, ref. 100) for use in a radio communication system (fig. 1) having physical control channels arranged for the bi-directional transmission of sets of control information (page 6, lines 6-13) between a secondary station (figs. 1 & 2, ref. 110) and a plurality of primary stations (fig. 2, ref. 100a-c), and at least one data channel between a selected subset of primary stations greater than one primary station (page 6, lines 10-17; page 12, lines 20-31), selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel, wherein closed-loop power control means are provided for adjusting the power of some or all physical control channels between the plurality of primary stations and the secondary station (page 6, lines 6-13), or parts thereof, to which a set of control information is mapped

(page 7, line 10 to page 8, line 19), said closed-loop power control means being utilized to select the subset of primary stations (page 6, lines 13-17).

The claimed invention, as recited in claim 10, is directed to a secondary station (figs. 1 & 2, ref. 110) for use in a radio communication system (fig. 1) having physical control channels arranged for the bi-directional transmission of sets of control information (page 6, lines 6-13; page 7, lines 10-17; page 8, lines 20-29) between the secondary station (figs. 1 & 2, ref. 110) and a plurality of primary stations (fig. 2, ref. 100a-c), and at least one data channel between a selected subset of primary stations greater than one primary station (page 6, lines 10-17; page 12, lines 20-31), selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel, wherein closed-loop power control means are provided for adjusting individually the power of some or all physical control channels between the plurality of primary stations and secondary station (page 6, lines 6-13), or parts thereof, to which a set of control information is mapped (page 7, line 10 to page 8, line 19), said closed-loop power control means being utilized to select the subset of primary stations (page 6, lines 13-17).

The claimed invention, as recited in claim 20, is directed to a method (fig. 5) of operating a radio communication system (figs. 1 & 2). The method comprising: arranging physical control channels for the bi-directional transmission of sets of control information (page 6, lines 6-13; page 7, lines 10-17; page 8, lines 20-29) between a secondary station (figs. 1 & 2, ref. 110) and a plurality of primary stations (fig. 2, ref. 100a-c); arranging at least one data channel between a selected subset of primary stations greater than one primary station (page 6, lines 10-17; page 11, lines 13-18; page 12, lines 20-31), selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel (page 11, lines

15-20); operating respective closed-loop power control means for adjusting individually the power of some or all physical control channels (page 6, lines 6-13; page 11, line 25 to page 12, line 2), or parts thereof, to which a set of control information is mapped to select the subset of primary stations (page 7, line 10 to page 8, line 19).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1-7, 10-15, 19, 20, 25-27 are properly rejected under 35 USC 103(a) as being obvious over US Published Application US 2002/0009061 (hereinafter “Willenegger”) in view of US Patent 6,862,449 (hereinafter “Mohebbi”).

Whether claims 8 and 9 are properly rejected under 35 USC 103(a) as being obvious over Willenegger, Mohebbi and further in view of US Patent 6,385,462 (hereinafter “Baum”).

VII. ARGUMENT

Appellant respectfully traverses the rejections in accordance with the detailed arguments set forth below.

A. Claims 1-7, 10-15, 19, 20, 25-27 are not properly rejected under 35 USC 103(a) as being obvious over Willenegger in view of Mohebbi.

1. Claim 1

Appellant’s claim 1 includes the features of: “said closed-loop power control means being utilized to select a subset of primary stations greater than one primary station, selected

from the plurality of primary stations, for the transmission of data over at least one data channel between the selected subset of primary stations and the secondary station.”

In Appellant’s invention the closed-loop power control is utilized to select, for example, the active set of base stations in a handover (see specification: page 5, line 28 to page 6, line 17). As described in Appellant’s specification, for example, page 5, line 22 to page 6, line 17, this provides an advantage in that a separate message need not be sent to indicate the channel conditions.

In the final Office Action, page 4, the Examiner admits Willenegger fails to teach or suggest at least the above mentioned feature as recited in claim 1. On page 4 of the final Office Action, the Examiner argues that Mohebbi teaches such a feature at col. 11, lines 47-51; col. 16, lines 62-67; col. 17, lines 1-7 and 19-24. Appellant disagrees because nowhere does Mohebbi suggest using the closed-loop power control means, as claimed by Appellant.

In the Office Action, “Response to Arguments” section, pages 2-3, the Examiner argues that Mohebbi uses an SIR measurement which, according to the Examiner, is a closed loop power control and closed loop power control comprises the measurement of SIR. This is clearly not supported by any statements in Mohebbi or by general knowledge of CDMA systems.

Nowhere does Mohebbi state or suggest that the SIR is a closed loop power control means. In fact, Mohebbi only describes that the RSS and SIR are simply performance measures. According to Mohebbi, the measures are employed to select which of the BTSs involved in the soft hand-off operation is to be used to transmit the downlink signal to the MS in the next time slot. A BTS selection message is sent “identifying the BTS(s) to be used” (see col. 17, lines 1-35). There is nothing whatsoever in Mohebbi to suggest that an SIR measure is a transmit power control means. Furthermore, Mohebbi does not provide the advantage of the claimed invention

that a separate message need not be sent to indicate the channel conditions since Mohebbi teaches the BTS selection message (see Appellant's specification, for example, page 5, line 22 to page 6, line 17).

There is no suggestion at all in any of the cited references to support the Examiner's position that a closed-loop power control being utilized to select a subset of primary stations ..., as claimed in claim 1. In the prior art, soft hand-off control and closed-loop power control have completely different functions for different results and are not equivalent. Even if they share a common "measurement," such as an SIR measurement, they certainly are not equivalent and there is no suggestion in Mohebbi of using the closed-loop power control for selecting base stations for an active set for soft hand-off control.

As is known, in an IS-95-A communication system, the mobile station sends a Pilot Strength Measurement Message when it finds a pilot of sufficient strength that is not associated with any of the Forward Traffic Channels currently being demodulated or when the strength of a pilot that signal is associated with one of the Forward Traffic Channels being demodulated drops below a threshold for a predetermined period of time. The mobile station sends a Pilot Strength Measurement Message following the detection of a change in the strength of a pilot under the following three conditions: 1. The strength of a neighbor *set* or Remaining *Set* pilot is found above the threshold to add 2. The strength of a candidate *set* pilot exceeds the strength of an *active set* pilot by more than a threshold. 3. The strength of a pilot in the *active set* of Candidate *Set* has fallen below a threshold to drop for greater than a predetermined time period. Thus, soft handoff utilizes a specific message which identifies a specific pilot. Conventional closed loop power control is a completely separate function, which does not identify a specific pilot in the uplink.

As pointed out in Appellant's specification, page 6, lines 1-5: "In a conventional UMTS system, each MS 110 only transmits one set of uplink TPC commands to all BSs 100a, 100b, 100c in the active set. Hence, although there is a form of power control loop the powers of the downlink channels are not individually controlled."

As one skilled in the art understands, since the MS only transmits one set of uplink TPC commands to all BSs, in the conventional system the power control loop cannot be used to select a BS because there is no differentiating the BSs in the TPC commands, thus the Examiner's assertions are not supported by any reference or general knowledge of one skilled in the art.

For at least the foregoing reasons, it is respectfully submitted the Examiner's position is not supported by the combination of references, nor does the Examiner provide any evidence supporting this proposition that the prior art suggests closed-loop power control can be utilized to select a subset of primary stations greater than one primary station, selected from the plurality of primary stations, for the transmission of data over at least one data channel between the selected subset of primary stations and the secondary station, thus the rejection should be reversed.

2. Claim 6

Appellant's independent claim 6 is directed to a primary station and includes the features of: "at least one data channel between a selected subset of primary stations greater than one primary station, selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel, wherein closed-loop power control means are provided for adjusting the power of some or all physical control channels between the plurality of primary stations and the secondary station, or parts thereof, to which a set of control information is mapped, said closed-loop power control means being utilized to select the subset of primary stations." (Emphasis added).

In the final Office Action, bottom of page 5, the Examiner admits Willenegger fails to teach or suggest such a feature of said closed-loop power control means being utilized to select the subset of primary stations. On page 6 of the final Office Action the Examiner again argues that Mohebbi teaches such a feature using identical arguments as set forth in claim 1. Appellant disagrees and essentially repeats the above arguments from claim 1. There is no suggestion in the combination of references that closed-loop power control can be utilized as claimed, thus the rejection should be reversed.

3. Claim 10

Appellant's independent claim 10 is directed to a secondary station and includes the features of: "wherein closed-loop power control means are provided for adjusting individually the power of some or all physical control channels between the plurality of primary stations and secondary station, or parts thereof, to which a set of control information is mapped, said closed-loop power control means being utilized to select the subset of primary stations."

In the final Office Action, the Examiner again points to Mohebbi to teach the features not found in Willenegger using substantially identical arguments as set forth in claim 1. Appellant disagrees and essentially repeats the above arguments from claim 1. There is no suggestion in the combination of references that closed-loop power control can be utilized as claimed in claim 10, thus the rejection should be reversed.

4. Claim 20

Appellant's independent claim 20 is directed to a method of operating a radio communication system and includes the features of: "arranging at least one data channel between a selected subset of primary stations greater than one primary station, selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one

data channel; operating respective closed-loop power control means for adjusting individually the power of some or all physical control channels, or parts thereof, to which a set of control information is mapped to select the subset of primary stations.”

The Examiner again uses substantially identical arguments as set forth in claim 1. Appellant essentially repeats the above arguments from claim 1. There is no suggestion in the combination of references that closed-loop power control can be utilized as claimed in claim 20, thus the rejection should be reversed.

5. Claims 2-5

Claims 2-5 depend from claim 1 and include all the limitations of claim 1. Furthermore, each dependent claim includes further distinguishing features. Accordingly, Appellant essentially repeats the above arguments from claim 1 and respectfully submits claims 2-5 are allowable by virtue of their dependency, as well as the additional subject matter recited therein and not shown in the combination of references, thus the rejection should be reversed.

6. Claim 7

Claims 7 depends from claim 6 and include all the limitations of claim 6 and further distinguishing features. Accordingly, Appellant essentially repeats the above arguments from claim 1 and respectfully submits claim 7 is allowable by virtue of its dependency, as well as the additional subject matter recited therein and not shown in the combination of references, thus the rejection should be reversed.

7. Claims 12-15, 19, 25-27

Claims 12-15, 19, 25-27 depend from claim 10 and include all the limitations of claim 10. Additionally, each dependent claim includes further distinguishing features. Accordingly, Appellant essentially repeats the above arguments from claims 1 & 10 and respectfully submits

claims 12-15, 19, 25-27 are allowable by virtue of their dependency, as well as the additional subject matter recited therein and not shown in the combination of references, thus the rejection should be reversed.

B. Claims 8 and 9 are not properly rejected under 35 USC 103(a) as being obvious over Willenegger in view Mohebbi and further in view of Baum.

Claims 8 and 9 depend from claim 1 and includes all the limitations of claim 1, plus each dependent claim includes further distinguishing features. The Examiner does not rely on Baum to cure the deficiencies in the combination of Willenegger and Mohebbi as described above with respect to independent claim 1. Accordingly, Appellant essentially repeats the above arguments from claim 1 and respectfully submits that, for at least the foregoing reasons, claims 8 and 9 are not rendered obvious by the combination of references and the rejection should be reversed.

CONCLUSION

In light of the above, appellant respectfully submits that the rejection of claims 1-15, 19-20, and 25-27 is in error, legally and factually, and must be reversed.

Respectfully submitted,

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VIII. CLAIMS APPENDIX

1.(previously presented) A radio communication system having physical control channels arranged for the bi-directional transmission of sets of control information between a secondary station and a plurality of primary stations, wherein respective closed-loop power control means are provided for individually adjusting the power of some or all physical control channels, or parts thereof, to which a set of control information is mapped, said closed-loop power control means being utilized to select a subset of primary stations greater than one primary station, selected from the plurality of primary stations, for the transmission of data over at least one data channel between the selected subset of primary stations and the secondary station.

2.(previously presented) The system as claimed in claim 1, further comprising means for encoding each downlink physical control channel, or part thereof, to which a set of control information is mapped with a respective scrambling code to enable the associated primary station to be identified.

3.(previously presented) The system as claimed in claim 1, further comprising means for transmitting power control commands relating to each downlink physical control channel, or part thereof, to which a set of control information is mapped via the single time-multiplexed uplink physical channel.

4.(previously presented) The system as claimed in claim 1, further comprising means responsive to requests from the secondary station for selecting the primary station connected to the data channel.

5.(previously presented) The system as claimed in claim 1, further comprising means for establishing a plurality of communication links between a primary station and the secondary station, for determining which of the primary stations comprise selected primary stations, and for determining which of the communication links are selected.

6.(previously presented) A primary station for use in a radio communication system having physical control channels arranged for the bi-directional transmission of sets of control information between a secondary station and a plurality of primary stations, and at least one data channel between a selected subset of primary stations greater than one primary station, selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel, wherein closed-loop power control means are provided for adjusting the power of some or all physical control channels between the plurality of primary stations and the secondary station, or parts thereof, to which a set of control information is mapped, said closed-loop power control means being utilized to select the subset of primary stations.

7.(previously presented) The primary station as claimed in claim 6, further comprising means for acquiring or releasing a data channel in response to changing radio link conditions to become or cease to be a selected primary station.

8.(previously presented) The primary station as claimed in claim 6, further comprising means for determining operational parameters of the data channel depending on the power level of a physical control channel, or part thereof, to which a set of control information is mapped.

9.(previously presented) The primary station as claimed in claim 8, wherein the operational parameters are at least one of modulation and coding schemes.

10.(previously presented) A secondary station for use in a radio communication system having physical control channels arranged for the bi-directional transmission of sets of control information between the secondary station and a plurality of primary stations, and at least one data channel between a selected subset of primary stations greater than one primary station, selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel, wherein closed-loop power control means are provided for adjusting individually the power of some or all physical control channels between the plurality of primary stations and secondary station, or parts thereof, to which a set of control information is mapped, said closed-loop power control means being utilized to select the subset of primary stations.

11.(previously presented) The secondary station as claimed in claim 10, further comprising means for determining which of the primary stations comprise the selected primary station in response to changing radio link conditions.

12.(previously presented) The secondary station as claimed in claim 10, further comprising means for transmitting each set of uplink control information over a separate physical channel.

13.(previously presented) The secondary station as claimed in claim 12, further comprising means for distinguishing the physical channels by use of different channelisation codes.

14.(previously presented) The secondary station as claimed in claim 12, further comprising means for distinguishing two of the physical channels by transmitting a first physical channel which uses the in-phase component of the carrier and a second physical channel which uses the quadrature-phase component of the carrier.

15.(previously presented) The secondary station as claimed in claim 14, further comprising means for interrupting an uplink physical control channel when uplink data transmission is required.

16 – 18. (canceled)

19.(previously presented) The secondary station as claimed in claim 10, further comprising means for achieving the time-multiplexing by including separate power control relating to each primary station with which sets of control information are exchanged in a single physical control channel.

20.(previously presented) A method of operating a radio communication system, comprising:

arranging physical control channels for the bi-directional transmission of sets of control information between a secondary station and a plurality of primary stations;

arranging at least one data channel between a selected subset of primary stations greater than one primary station, selected from the plurality of primary stations, and the secondary station for the transmission of data over the at least one data channel;

operating respective closed-loop power control means for adjusting individually the power of some or all physical control channels, or parts thereof, to which a set of control information is mapped to select the subset of primary stations.

21 – 24. (canceled)

25.(previously presented) The secondary station according to claim 10, further comprising means for transmitting each set of uplink control information time-multiplexed over a single physical channel.

26.(previously presented) The secondary station according to claim 25, further comprising means for achieving the time-multiplexing by reducing the rate of transmission of power control commands.

27.(previously presented) The secondary station according to claim 26, wherein the reduction in rate is in proportion to a number greater than or equal to the number of primary stations with which sets of control information are exchanged.

IX. EVIDENCE APPENDIX

No evidence has been submitted pursuant to §§ 1.130, 1.131, or 1.132 of this title nor any other evidence entered by the examiner and relied upon by appellant in the appeal.

X. RELATED PROCEEDINGS APPENDIX

Appellant is not aware of any appeals or interferences related to the present application.